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[54] **HAND-HELD INTERACTIVE TERMINAL**

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[51] **Int. Cl.**[2] **G06F 3/00;** H04M 11/00

[58] **Field of Search** ..... 340/172.5, 149 A, 152 R, 340/365 R, 365 S; 179/2 DP, 2 CA, 98 R; 178/17 C, 17.5, 79, 81, 21; 197/98 R

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[57] **ABSTRACT**

An interactive terminal which is capable of complete hand-held operation with total freedom of position and location is provided. The terminal incorporates a self contained full 128-character keyboard, a 20-character alphanumeric readout, and a 1000-character memory. The terminal allows the generation of all 128 ASCII characters plus "break." In order to assure review of any message, a conveniently positioned scroll switch is incorporated to advance or roll back any messsage in the memory for presentation on the display.

When previous messages are displayed and incoming information is being received by the terminal, the light intensity of the displayed messages modulates to indicate to the operator that information is being received but not displayed. The unique, totally portable, hand-held interactive terminal is provided with a 20 key keyboard which is operated with one hand, while the other hand selects one of four different information levels for each key. Consequently, each of the 20 keys is capable of transmitting four different characters or other information thereby assuring easy, compact transmission of all numeric, alphabetic, and punctuation characters, and command information to an interconnected device.

The interactive computer terminal prevents the transmission of information when more than one of the twenty keys of the keyboard is depressed simultaneously In addition, the terminal allows for the automatic transmission of any characters when the corresponding key is depressed for a short period of time. Furthermore, an audible alarm is incorporated which automatically sounds when improper keyboard operation is attempted.

The interactive terminal provides for local operation that allows the invention to display information without transmitting this information to any interconnected device. The display of the present terminal incorporates a cursor that indicates the position, type and information level of the next character to be generated and transmitted if a keyboard key is depressed.

Furthermore, the interactive terminal provides for the selection of various parameters; including communication speed, parity, half-duplex or full-duplex mode, upper or lower case alphanumeric transmission from the keyboard, and a "justify" operation for presenting of words on more than one line if these words are equal to or less than 10 characters.

68 Claims, 66 Drawing Figures